

### **REMARKS**

In response to the *Office Action* mailed August 27, 2007<sup>1</sup>, Applicant respectfully requests reconsideration. Claims 1-24 remain pending in this application of which claims 1, 11, 21, and 22 are independent. Claims 25-30 were canceled by a previous amendment.

By this amendment, Applicant amends claims 1, 3, 5, 6, 8, 11, 13, 14, 16 - 18, 21, 22, and 24 to further clarify Applicant's invention, to eliminate certain typographical errors, and to provide appropriate antecedent bases in certain cases. No new matter is introduced by these amendments.

### **Rejections Under 35 U.S.C. § 112**

In the *Office Action* mailed August 27, 2007, claims 1-24 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. See *Office Action* at 2. Specifically, in Claims 1, 11, 21, and 22, the independent claims, the term "options" was deemed to be unclear. *Id.* In response, Applicant has clarified the language of Claims 1, 11, 21, and 22, and Claims 2 - 10, 12 - 20, and 23 - 24, depending directly or indirectly therefrom, by amending Claims 1, 11, 21, and 22 to now recite "defined options."

Applicant respectfully requests the rejection of Claims 1-24 under 35 U.S.C. § 112, second paragraph, be now withdrawn.

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<sup>1</sup> The *Office Action* contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the *Office Action*.

### **Rejections Under 35 U.S.C. § 101**

In the Office Action mailed August 27, 2007, Claims 11-21 were rejected under 35 U.S.C. § 101 for being directed to non-statutory subject matter. See Office Action at 2-3. Specifically, Claims 11 - 21 were deemed to be directed to a system that does not have physical structural elements. See Office Action at 3.

In responding to the rejection of Claims 11 - 20, Applicant has amended Claim 11 to recite “a processor for processing instances of a class” and “memory having . . . memory space that is allocable for the option value. . . .” See Claim 11. For at least this reason, Claim 11 is allowable under 35 U.S.C. §101, and Claims 12 - 20 are also allowable at least since they depend directly or indirectly from Claim 11.

Claim 21 recites features similar to those recited in Claim 11, but in the “means plus function” language according to 35 U.S.C. § 112, sixth paragraph. Accordingly, structure is imparted to Claim 21, and therefore Claim 21 is directed to statutory subject matter under 35 U.S.C. §101.

Therefore, Applicant respectfully requests the rejection under 35 U.S.C. §101 of independent Claims 11 and 21 and Claims 12 - 20 depending directly or indirectly from Claim 11, to be withdrawn.

### **Double Patenting Rejection**

In the Office Action mailed August 27, 2007, Claims 1 - 24 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-27, 29, and 30 of co-pending U.S. Patent Application

No. 09/759,697 and Claims 1-3, 5-12, 14-21, and 23-26 of U.S. Patent Application No. 09/759,695. See Office Action at 3.

While Applicant respectfully disagrees with the provisional obviousness-type double patenting rejection, filed herewith is a terminal disclaimer in compliance with 37 CFR 1.321, which overcomes the provisional obviousness-type double patenting rejection over Claims 1-27, 29, and 30 of co-pending Application No. 09/759,697 and Claims 1-3, 5-12, 14-21, and 23-26 of Application No. 09/759,695.

### **Rejections Under 35 U.S.C. § 103**

In the Office Action mailed August 27, 2007, the Claims 1-8, 11-18, and 21-24 were rejected as being unpatentable under 35 U.S.C. §103(a) over McLennan, "Object-Oriented Programming with [incr Tcl] Building Mega-Widgets with [incr Tk]," 1996, hereinafter *McLennan*, in view of Linked list code examples from "Data Structures and other Objects Using C++" by Main and Savitch (1997) listed in the cs.appstate.edu website (Index of... examples; "Bag Implementation Using Linked Lists," 1998), hereinafter "*Main*," and in further view of U.S. Patent No. 5,579,518, hereinafter "*Yasumatsu*." See Office Action at 4.

In addition, Claims 9, 10, 19, and 20 were rejected as being unpatentable under 35 U.S.C. §103(a) over *McLennan* in view of *Main*, further in view of *Yasumatsu* and still further in view of Hostetter et al ("Curl: A Gentle Slope Language for the Web," World Wide Web Journal, Spring 1997, art of record) hereinafter "*Hostetter*."

Applicant respectfully traverses both of the rejections under 35 U.S.C. § 103 because the Office Action has not established a prima facie case of obviousness. To

establish a *prima facie* case of obviousness, the prior art (separately or combined) must teach or suggest all the claim limitations. See M.P.E.P. §2142, 8<sup>th</sup> Ed. Rev. 5 (August 2006). Moreover, “in formulating a rejection under 35 U.S.C. §103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed.” USPTO Memorandum from Margaret A. Focarino, Deputy Commissioner for Patent Operations, May 3, 2007, page 2.

### **Claims 1-8, 11-18, and 21-24**

Turning first to the rejection of Claim 1, a *prima facie* case of obviousness has not been established because, among other things, the prior art taken alone or in combination, fails to teach or suggest each or every element of Claim 1. For example, the prior art taken alone or in combination, fails to teach or suggest the following elements:

#### **1. Defined options with allocation of memory space when options are optionally associated with an instance**

The prior art taken alone or in combination fails to teach or suggest the feature recited in Claim 1 of defining classes with “defined options, each of the defined options having an option value, an option name, and an option data type, wherein memory space for the option value is allocated when each of the options corresponding to the option value is optionally associated with the instance of the class. . . .” *McLennan*, *Main*, and *Yasumatsu* all describe systems and methods implemented using traditional object-oriented systems, which do not support defined options, as opposed to defined fields, in the definition of a class. Therefore, *McLennan*, *Main*, and *Yasumatsu* do not

teach defining options in the class definition in which “memory space for the option value is allocated when each of the options corresponding to the option value is optionally associated with the instance of the class”, as recited in Claim 1.

As noted in the Office Action, *McLennan* discloses providing options with option values, option names, and option data types, but the *McLennan* options do not have memory space for the option value allocated when each of the options corresponding to the option value is optionally associated with the instance of the class. Similarly, *Main* is cited for disclosing defining option values without allocation of memory space when the instance of the class is created, but, in addition, the *Main* options are not defined in the definition of a class. Finally, *Yasumatsu* is cited for teaching performing data type checks by a compiler. *Yasumatsu* discloses a message compiler for an object-oriented system with which object types are determined during execution of a programming code. *Yasumatsu* does not disclose optional class members.

In traditional object-oriented systems, optional class members may be created, but their implementation would not result in the claimed invention. Creating an optional class member using prior art systems and methods would require creating functions in the class definition to get and set the values of the options. Functions would necessarily be written in program code, either in the class definition or elsewhere, to traverse the data structure supporting optional members. Prior art optional class members do not have “defined options, each of the defined options having an option value, an option name, and an option data type”, as recited in Claim 1.

## **2. Accessing Option And Field Values Using The Same Syntactic Form**

The prior art taken alone or in combination fails to teach or suggest the feature recited in Claim 1 of “accessing field values and option values in the instance using program code expressions having the same syntactic form. . . .”. *McLennan, Main*, and *Yasumatsu* do not teach accessing an option value and a field value using expressions of the same syntactic form. For example, *Yasumatsu* teaches a preliminary type checking of data types based on the “nature of the source code and syntax.” See *Yasumatsu* at Col. 5, lines 50-58. Therefore, *Yasumatsu* requires differences in syntactical form in order to conduct its data type checks. *Yasumatsu*’s improvement does not, therefore, provide program code expressions with the same syntactic form.

### **3. The Property Name**

The prior art taken alone or in combination fails to teach or suggest the feature recited in Claim 1 of “determining whether at least one of the program code expressions accesses one of (a) the selected field value or (b) the selected option value based on the property name in the at least one of the program code expressions.” As recited in Claim 1, “each of the program code expressions compris[es] an operator and a property name”, with “the property name in the first program code expression comprising a field name corresponding to the selected field value” and “the property name in the second program code expression comprising an option name corresponding to the selected option value.”

Even assuming the Office Action’s characterizations of *McLennan, Main*, and *Yasumatsu* are correct, *McLennan, Main*, and *Yasumatsu*, taken alone or in combination, fail to teach or suggest the feature recited in Claim 1. In traditional object-oriented systems such as in the aforementioned references, the compiler would not

review a property name in the program code expression in order to determine whether a program code expression is accessing a field value or an option value. The compiler would access field values differently from option values, accessing an option value by performing a function that is indicated in a method call in the program code.

In the method recited in Claim 1, a separate method call is not needed to inform the compiler to access an option value. Instead, a program code expression has a property name that may comprise an option name or a field name. As recited in Claim 1, “determining whether at least one of the program code expressions accesses one of (a) the selected field value or (b) the selected option value [is] based on the property name in the at least one of the program code expressions.”

Therefore, the prior art, taken either alone or in a reasonable combination, fails to teach or suggest all of the elements of Claim 1. Claims 2-8 depend from Claim 1, and thus include all the elements and limitations thereof. As set forth above with respect to Claim 1, none of the prior art alone or in combination teaches, discloses or suggests the features recited in Claim 1, and required by Claims 2-8.

For at least these reasons, a *prima facie* case of obviousness with respect to Claims 1 - 8 has not been proved. The rejection of Claims 1-8 under 35 U.S.C. §103 as being obvious from *McLennan* in view of *Main* and further in view of *Yasumatsu* thus is improper and should be withdrawn.

For at least the reasons noted above, Claims 11-18, and 21-24, which recite similar elements and were rejected under the same rationale, are allowable under 35 U.S.C. §103(a). See Office Action page at 9.

### Claims 9, 10, 19, and 20

Claims 9 and 10 depend from Claim 1, and thus include all the elements and limitations thereof. As set forth above with respect to Claim 1, none of the prior art alone or in combination teaches, discloses or suggests the features recited in Claim 1, and required by Claims 9 and 10, namely

- class definitions having “defined options, each of the defined options having an option value, an option name, and an option data type, wherein **memory space for the option value is allocated when each of the options corresponding to the option value is optionally associated with the instance of the class**”;
- selecting field values and option values using program code expressions **“in the same syntactic form”**; and
- **determining** whether at least one of the expressions accesses one of (a) the selected field value or (b) the selected option value **based on the property name** in the at least one of the expressions.” (Emphasis added).

The Office Action cited *Hostetter* for teaching non-local option values and hierarchies, which are recited in Claim 1 and required by Claims 9 and 10 in view of their dependency therefrom. However, *Hostetter* also fails to disclose the above features recited in Claim 1. Therefore, even assuming the Office Action’s characterization of *Hostetter* is correct, *Hostetter* fails to cure the deficiencies of *McLennan*, *Main*, and *Yasumatsu* discussed above. Thus, the prior art, taken either alone or in a reasonable combination, fails to teach or suggest all of the elements of Claims 9 - 10.



For at least this reason, a *prima facie* case of obviousness with respect to Claims 9 - 10 have not been proved. The rejection of Claims 9 - 10 under 35 U.S.C. §103(a) as being obvious over *McLennan* in view of *Main*, further in view of *Yasumatsu* and still further in view of *Hostetter* thus improper and should be withdrawn.

For at least the reasons noted above, Claims 19 and 20, which recite similar elements and were rejected under the same rationale, are allowable under 35 U.S.C. §103(a). See Office Action page at 9 - 11.

In view of the foregoing remarks, Applicant submits that this claimed invention, as amended, is neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicant therefore requests the entry of this Amendment, the reconsideration and reexamination of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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